

More Custom Charts for RAWGraphs

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Group G1
SS 2025 Information Visualization

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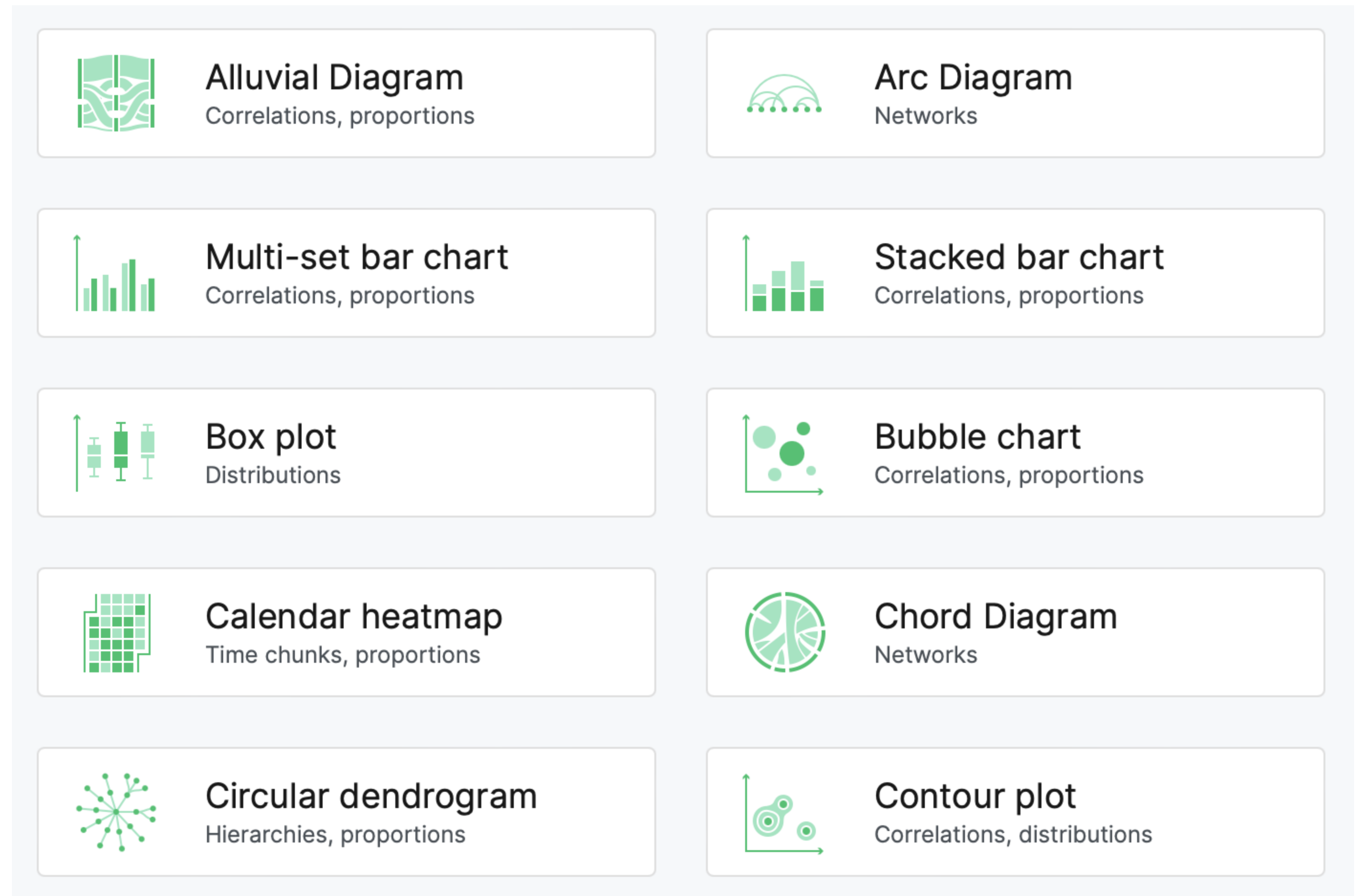
Overview

1. RAWGraphs
2. Previous Work
3. HCC Custom Charts

1. RAWGraphs

RAWGraphs

- Tool for Data Visualization.
- Free
- Open-source
- Wide range of charts.
- Several export options.

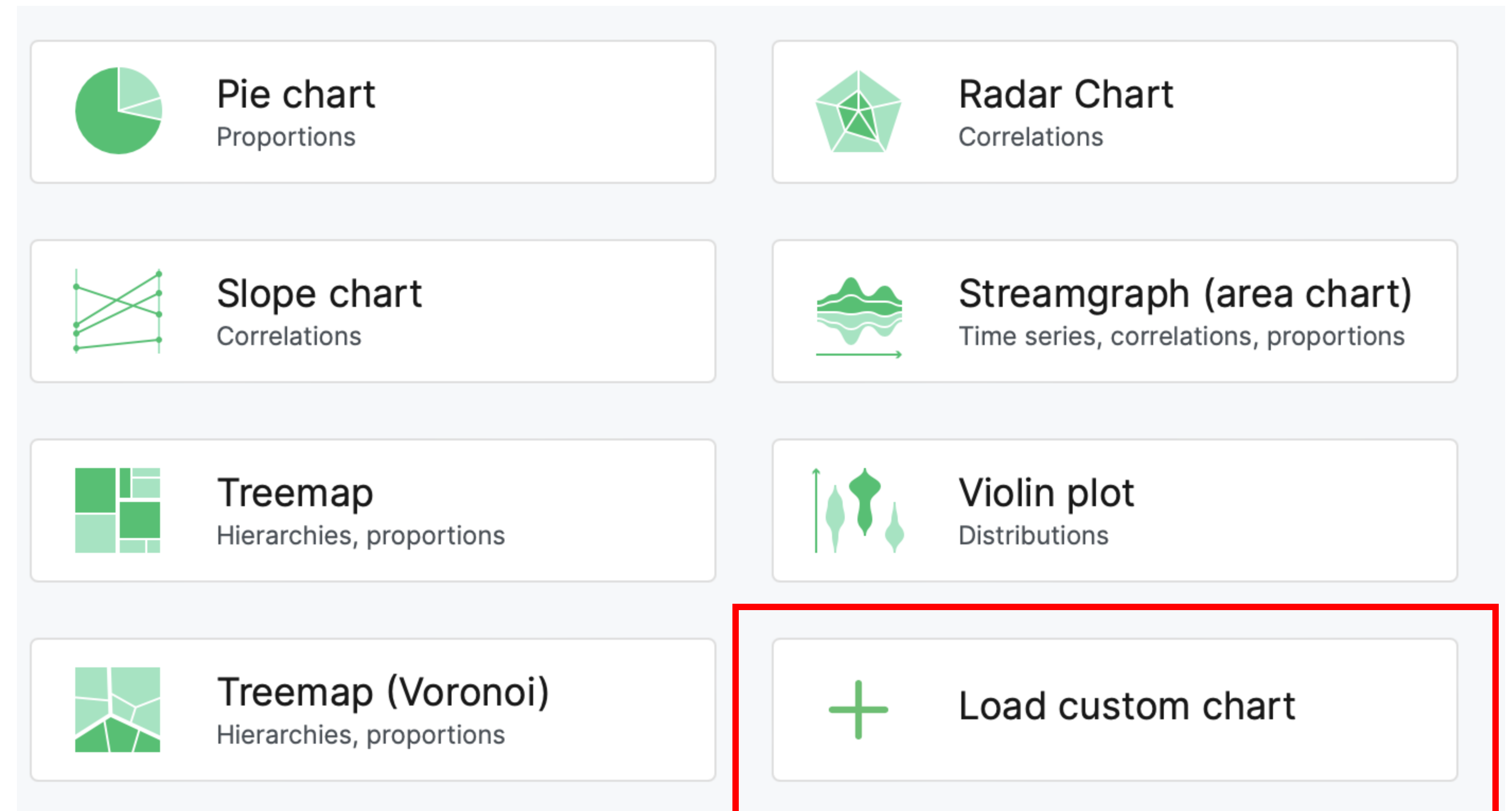


Example: Some currently available chart types.

Screenshot taken by Bastian Kandlbauer from <https://app.rawgraphs.io/>

Custom Charts

- Pieces of code.
- Can be loaded on the fly.
- Template available.



Example: Some currently available chart types, including the option to load a custom chart.
Screenshot taken by Bastian Kandlbauer from <https://app.rawgraphs.io/>

Create Custom Charts

- Based on JS and D3
- Define chart in its own folder with the following structure:

my-custom-chart/

- my-custom-chart.js
- dimensions.js
- index.js
- mapping.js
- metadata.js
- render.js
- VisualOptions.js
- my-custom-chart.svg (optional)
- thumbnail.svg (optional)

How To Use RAWGraphs?

1. *Load data*: Options to paste, upload, use data samples, use a SPARQL query, use a URL, or to open a project.
2. *Choose a chart*: Choose an available chart type, or load a custom chart.
3. *Mapping*: Map dimensions to chart variables.
4. *Customize*: Design the look of your chart.

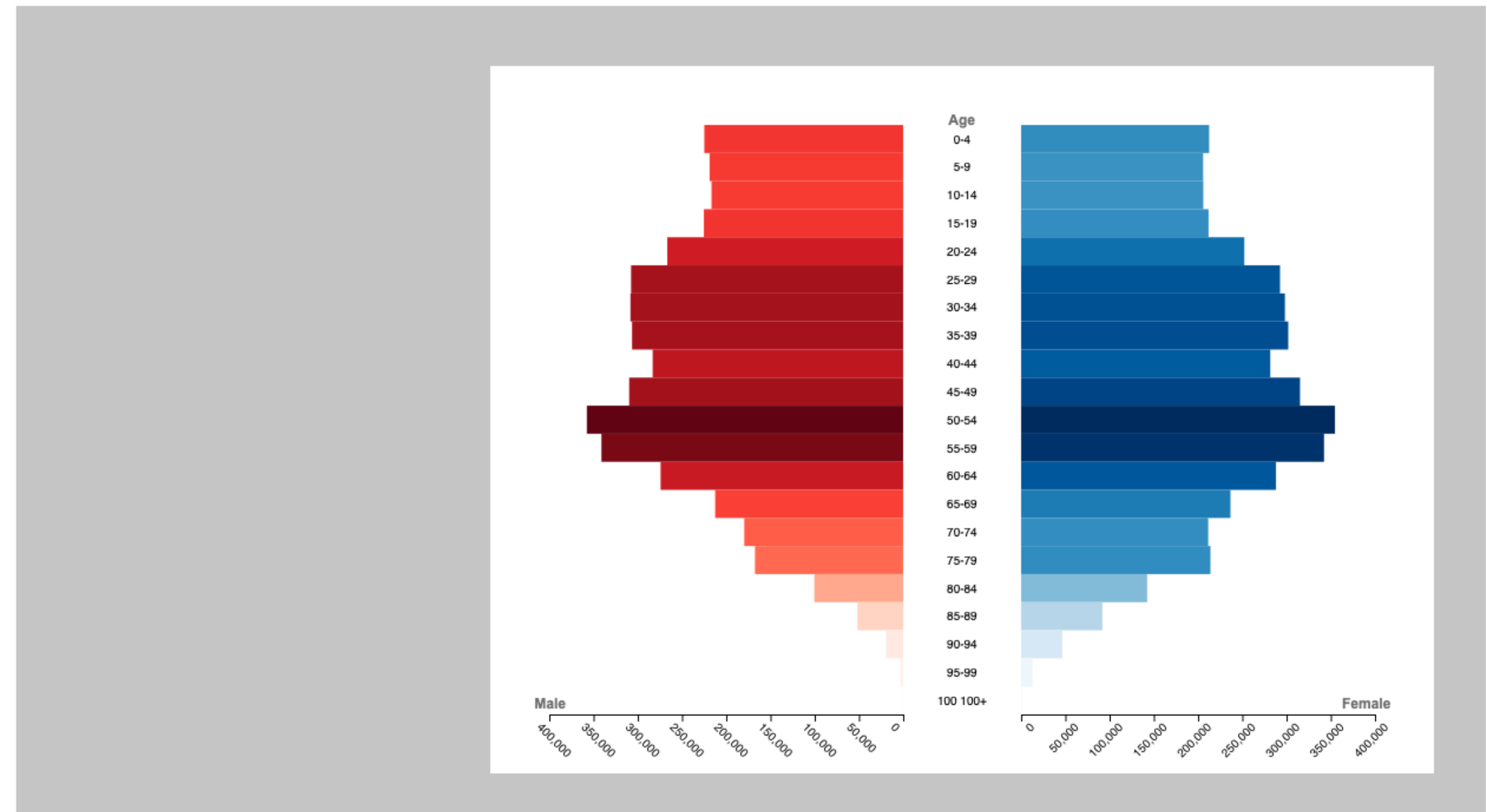
2. Previous Work

General Information

Repository of G1 2024: <https://github.com/solidth/RAWGraphs-Custom-Charts>

- D3 JavaScript library (<https://d3js.org>)
- three working charts:
 - paired bar chart
 - connected scatterplot
 - similarity map

[barchartpaired-test](#)
[connectedscatterplot-](#)
[driving-test](#)
[connectedscatterplot-](#)
[population-test](#)
[polarareadiagram-test](#)
[similaritymap-PCA](#)
[similaritymap-UMAP](#)
[similaritymap-tsne](#)



Example: Live preview of bar chart paired test

Screenshot taken by Laura Pessl from project by G1 2024 (Aumüller Thomas, Heider Martin, Ramadan Abdelrahman)

3. HCC Custom Charts

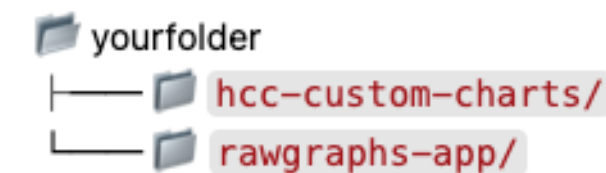
Improvements

- Revised RAWGraphs Options.
- Improved GitHub Repository (<https://github.com/laurapessl/hcc-custom-charts>):
 - Improved instructions
 - Detailed description of included charts
 - Two datasets per chart
 - RAWGraphs bundle for individual charts
 - Updated dependencies

Create a Bundle for RAWGraphs

If you are satisfied with your project, you can build the JavaScript bundle to be used in the RAWGraphs interface.

1. Go to the repository:

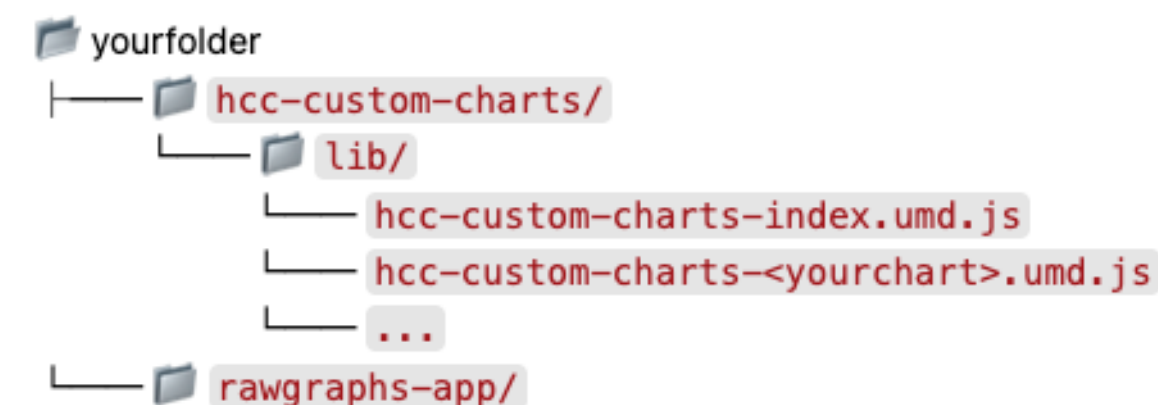


```
cd hcc-custom-charts
```

2. Build the project

```
yarn build
```

3. This will generate a folder named `lib/` in `hcc-custom-charts/`, in which you will find a `umd.js` file for each of your charts together:



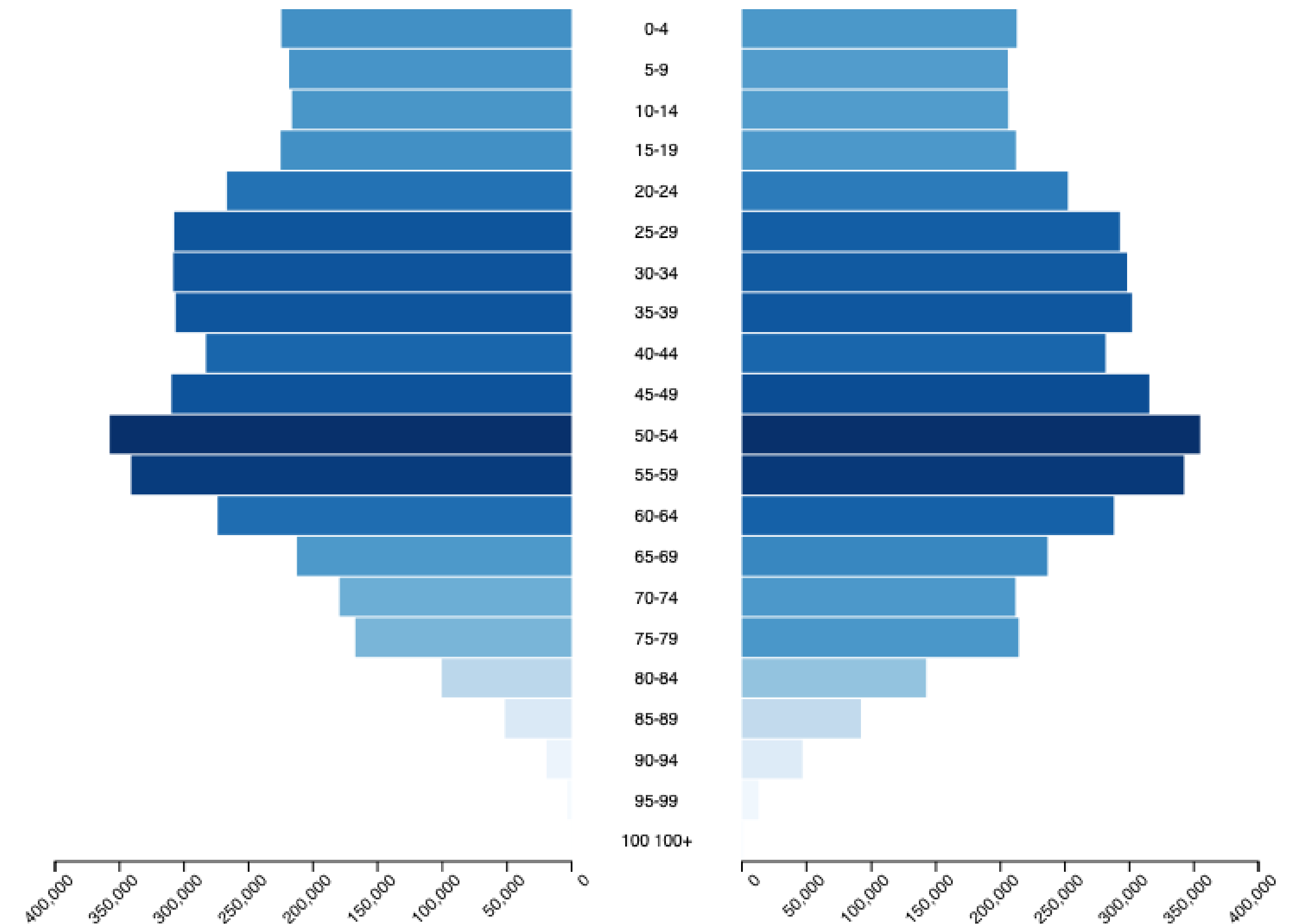
Those files can now be loaded with RAWGraphs.

Captor in README.md in repository:

Screenshot taken by Laura Pessl from <https://github.com/laurapessl/hcc-custom-charts>

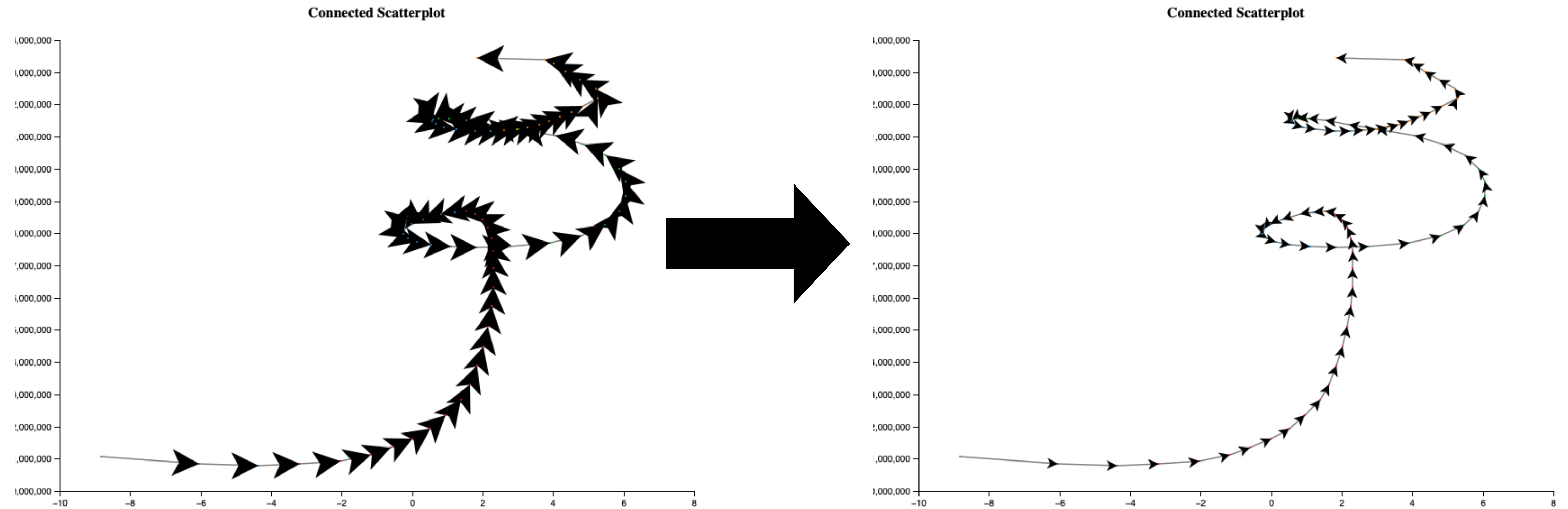
Paired Bar Chart

- Two related datasets.
- Side by side comparison.
- Unable to fix the color bug.



Paired Bar Chart: Used as custom chart in <https://app.rawgraphs.io/> and exported.

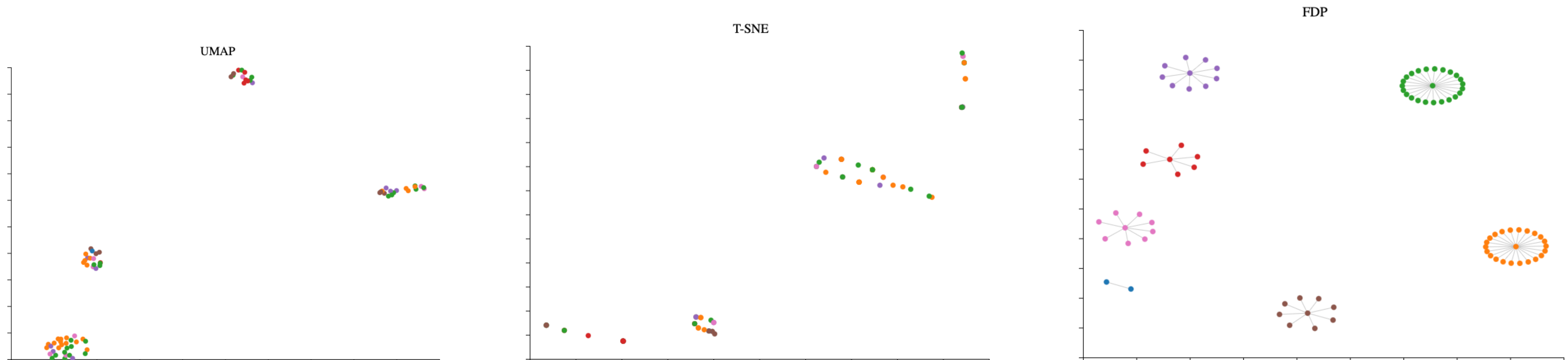
Connected Scatter Plot



Connected Scatter Plot: Used as custom chart in <https://app.rawgraphs.io/> and exported.

- Adjustable arrow size

Similarity Map



Similarity Map: Used as custom chart in <https://app.rawgraphs.io/> and exported.

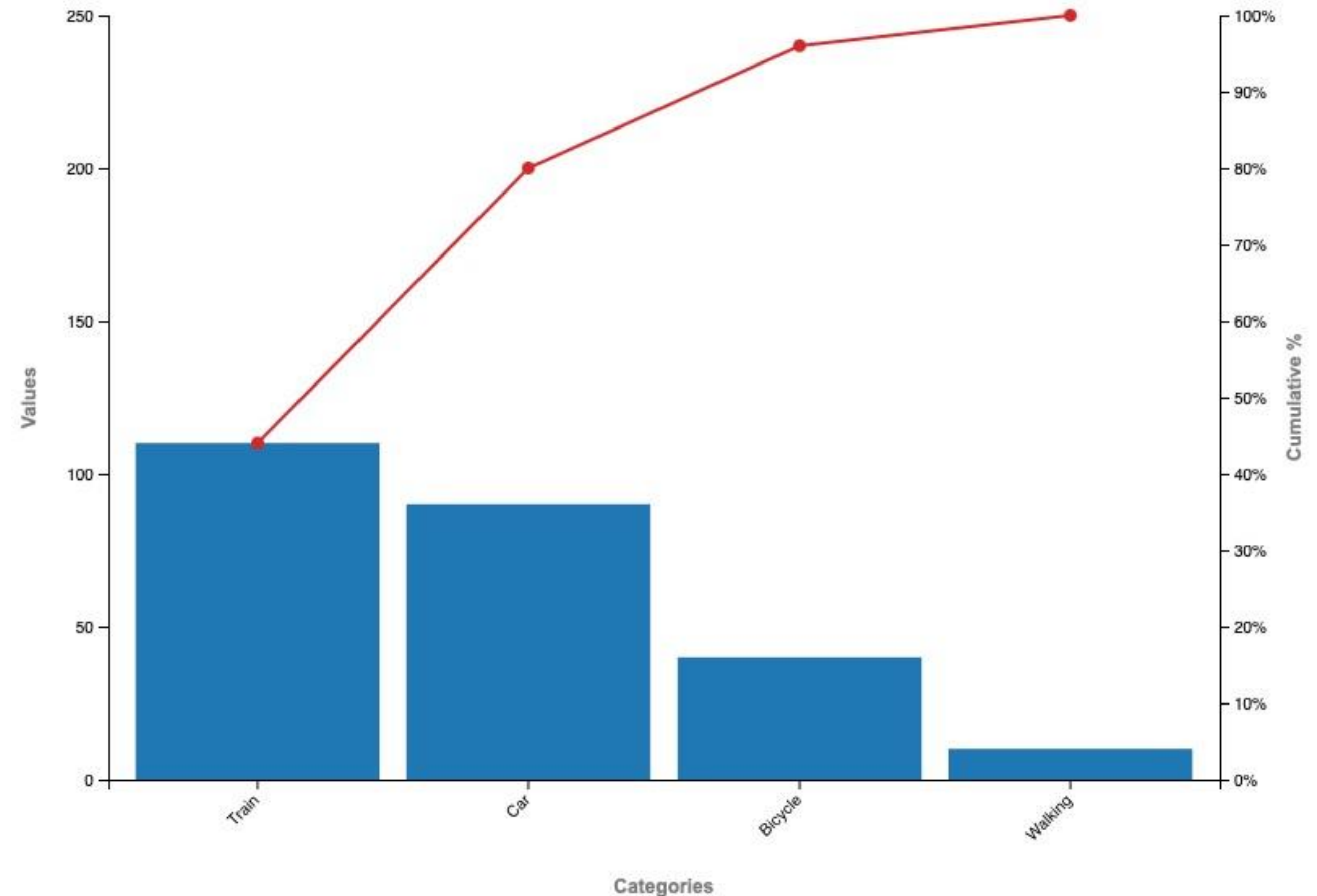
- Bug fixes for UMAP and T-SNE and implementation of FDP
 - <https://youtu.be/8-rmgTSF9M0>

Chart Bundles

Name	Included Charts	Description	Size
hcc-custom-charts-index.umd.js	all	Includes all charts.	426 KB
hcc-custom-charts-barchartpaired.umd.js	Paired Bar Chart	Displays two related data sets side by side for direct comparison.	83 KB
hcc-custom-charts-buletchart.umd.js	Bullet Chart	Linear chart, which displays performance data against some target value.	9 KB
hcc-custom-charts-connectedscatterplot.js	Connected Scatter Plot	Shows the evolution of a value over time with a connected line.	222 KB
hcc-custom-charts-paretochart.umd.js	Pareto Chart	Combination of a bar chart and a line graph.	13 KB
hcc-custom-charts-polarareachart.umd.js	Polar Area Chart	Radial visualization, which shows hierarchical data.	132 KB
hcc-custom-charts-similaritymap.umd.js	Similarity Map	Visual representation, which helps to reveal patterns, clusters or relationships in datasets.	186 KB

Pareto Chart fully implemented

- Values arranged from most frequent to least.
- Line graph represents cumulative total.
- Showcase Video:
<https://www.youtube.com/watch?v=p6tRoJwePYU>

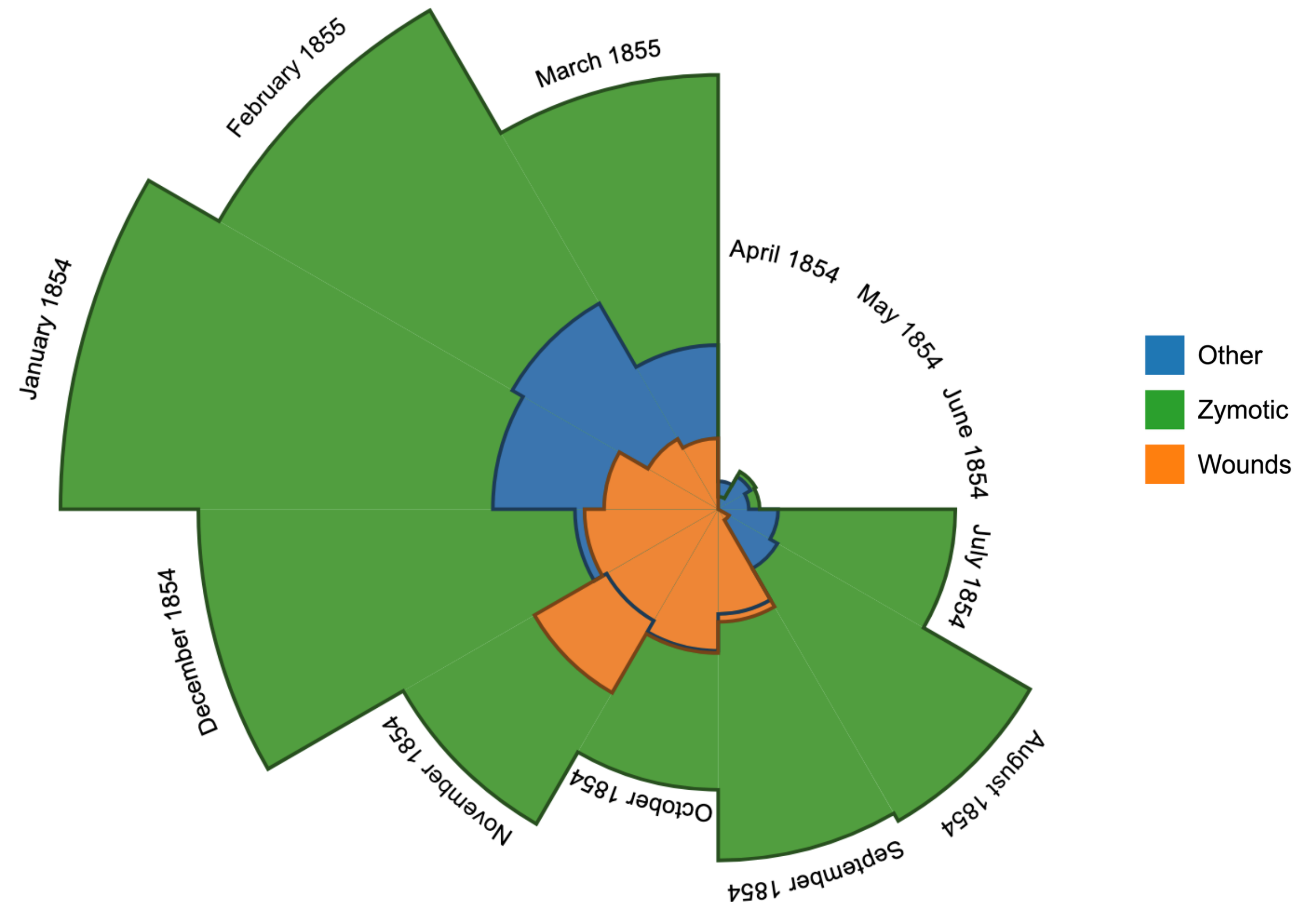


Implemented Pareto Chart: Used as custom chart in <https://app.rawgraphs.io/> and exported.

Polar Area Chart

- Every wedge represents a month.
- Stacked segments within each wedge represent different categories.
- Size and shape of each segment outline the values and their change over time.
- <https://youtu.be/4xsA2PaIOuU>

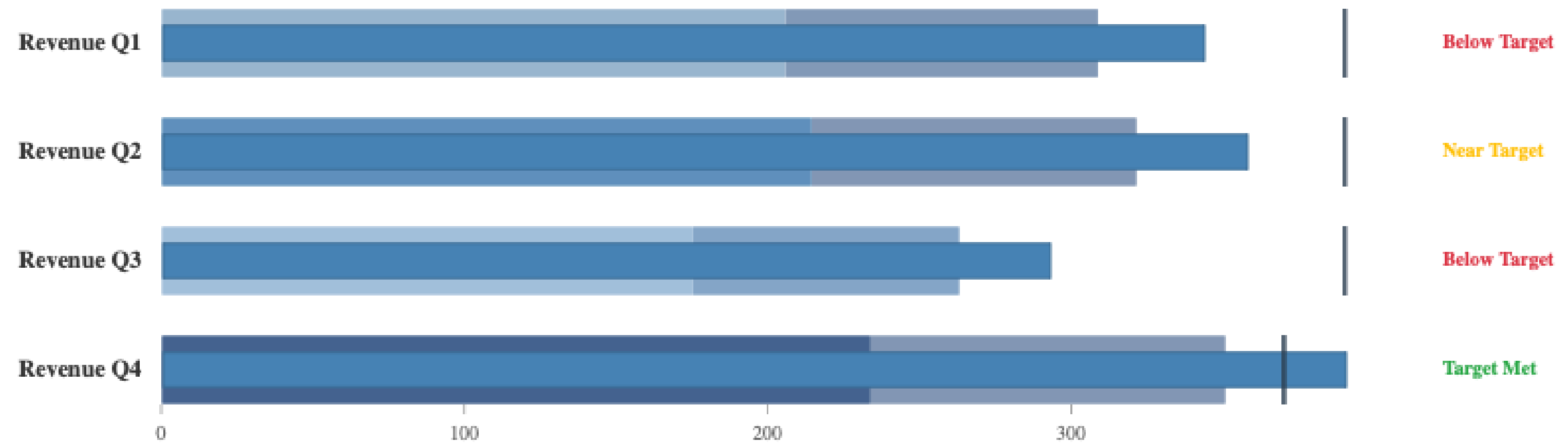
Nightingale's Data On Soldier Deaths



Implemented Polar Area Chart: Used as custom chart in <https://app.rawgraphs.io/> and exported.

Bullet Chart fully implemented

- Progress towards a goal.
- Developed by Stephen Few.
- Showcase Video:
https://youtu.be/CjvaBNfes_Y?si=RIGXA6xspqmfvtbG



Implemented Pareto Chart: Used as custom chart in <https://app.rawgraphs.io/> and exported.